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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,401	03/01/2002	Gregory P. Fitzpatrick	BOC920010011	1337
7590	10/05/2005			EXAMINER
IBM Corporation Intellectual Property Law Internal Zip 4042 8051 Congress Avenue Boca Raton, FL 33487				GELAGAY, SHEWAYE
			ART UNIT	PAPER NUMBER
			2133	
			DATE MAILED: 10/05/2005	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/086,401	FITZPATRICK ET AL.	
	Examiner	Art Unit	
	Shewaye Gelagay	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 March 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-22 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 3/1/02.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

1. Claims 1-22 have been examined.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 11 and 20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. It is not tangibly embodied as it is only software per se. It is suggested that the claimed subject matter "a software ..." should be changed to "a software stored on a computer-readable medium ...".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3-5 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Dickinson et al. (hereinafter Dickinson) United States Patent Letter Number 6,853,988.

As per claim 1:

Dickinson teaches a system for distributed storage and reconstruction of a data set containing sensitive information, said system comprising:

an array of multiple stores; (Figure 7, Col. 10, lines 61-65; Col. 15, lines 53-58)
and

logic for randomly dispersing successive granular portions of data in said set into said stores, each said granular portion containing only information of a non-sensitive nature; whereby extraction of sensitive information in said data set from unauthorized access to data contained in said stores is extremely unlikely to occur. (Col. 2, lines 55-59; Col. 3, lines 27-30; Col. 14, lines 59-65)

As per claim 3:

Dickinson teaches all the subject matter as discussed above. In addition, Dickinson further discloses wherein said processing subsystem is connected to said storage subsystem through a data communication network. (Col. 2, lines 55-56; Col. 6, lines 15-16)

As per claim 4:

Dickinson teaches all the subject matter as discussed above. In addition, Dickinson further discloses wherein said network comprises a local area network (LAN). (Col. 6, lines 49-51)

As per claim 5:

Dickinson teaches all the subject matter as discussed above. In addition, Dickinson further discloses wherein said network extends through the Internet. (Col. 9, line 1)

As per claim 22:

Dickinson teaches a system for a data handling and storage system, in which granular portions of data sets containing sensitive information are randomly dispersed in stores subject to orderly retrieval and reconstruction of respective sets, software installable in said system via computer-readable media, said software comprising:

elements for controlling functions requisite to said random dispersal of said granular portions; (Col. 2, lines 55-59; Col. 3, lines 27-30; Col. 14, lines 59-65) and

elements for controlling functions requisite to said orderly retrieval of said granular portions and reconstruction of said data sets. (Col. 14, lines 59-67 and Col. 15, lines 1-3)

6. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson et al. (hereinafter Dickinson) United States Patent Letter Number 6,853,988 in view of Ooba et al. (hereinafter Ooba) United States Publication Number 2001/0042143.

As per claims 2 and 11:

Dickinson teaches all the subject matter as discussed above. In addition, Dickinson further discloses a system having the ability to mathematically operate on various data so as to substantially randomize and split the data into portions in which the original data is not recreatable from an individual portion. (Col. 14, lines 62-65)

Dickinson does not explicitly teach logic to transfer successive said granular portions into randomly selected block queues in an array of multiple block queues; (Col. 14, lines 59-65)

contents of each said filled block queue having only non-sensitive information;
(Col. 14, lines 64-65)

Dickinson does not explicitly disclose each block queue holding multiple granular portions; logic to detect when any of said block queues becomes filled; and logic responsive to detection that a said block queue has become filled to transfer contents of the respective filled block queue to a randomly selected one of said stores in said array of stores.

Ooba in analogous art, however, discloses block queue holding multiple granular portions; (Page 9, paragraph 123) logic to detect when any of said block queues becomes filled; (Page 9, paragraph 126) and logic responsive to detection that a said block queue has become filled to transfer contents of the respective filled block queue to a randomly selected one of said stores in said array of stores. (Page 9, paragraph 126)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Dickinson to include block queue holding multiple granular portions; logic to detect when any of said block queues becomes filled; and logic responsive to detection that a said block queue has become filled to transfer contents of the respective filled block queue to a randomly selected one of said stores in said array of stores. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Ooba (Page 2, paragraph) in order to improve quality and efficiency of the memory access operations, and increases system throughput.

7. Claims 6, 8-9, 12-17 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson et al. (hereinafter Dickinson) United States Patent Letter Number 6,853,988 in view of Ooba et al. (hereinafter Ooba) United States Publication Number 2001/0042143 and further in view of Fitzhardinge (hereinafter Fitzhardinge) United States Publication Number 2002/0136406.

As per claims 6 and 17:

Dickinson and Ooba teach all the subject matter as discussed above. Both references do not explicitly disclose a system comprising: logic for retaining metadata indicating locations of said granular portions of said data set within said array of stores; and logic for using said retained metadata to retrieve said randomly dispersed granular portions from said stores and to reassemble the retrieved portions into their original positional relations in said data set.

Fitzhardinge in analogous art, however discloses logic for retaining metadata indicating locations of said granular portions of said data set within said array of stores; (Page 9, paragraph 118) and logic for using said retained metadata to retrieve said randomly dispersed granular portions from said stores and to reassemble the retrieved portions into their original positional relations in said data set. (Page 10, paragraph 119)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Dickinson and Ooba to include logic for retaining metadata indicating locations of said granular portions of said data set within said array of stores; and logic for using said retained metadata to retrieve said randomly dispersed granular portions from said stores and to

reassemble the retrieved portions into their original positional relations in said data set. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Fitzhardinge (Page 9, paragraph 118) in order to remember where it has stored all the blocks in a file.

As per claim 8:

Dickinson, Ooba and Fitzhardinge teach all the subject matter as discussed above. In addition, Fitzhardinge further disclose a system wherein said metadata contains representations of storage file names assigned to blocks of data in said stores containing randomly dispersed portions of said data set, and information indicating locations within said blocks of specific portions of said data set. (Page 9, paragraph 118)

As per claims 9 and 19:

Dickinson, Ooba and Fitzhardinge teach all the subject matter as discussed above. In addition, Fitzhardinge discloses a system wherein said data set is in the form of a table having rows and columns, said dispersed portions are located originally at intersections of said rows and columns, and said retained metadata includes information for repositioning retrieved granular portions of said data set into specific row and column intersects of said table at which said portions were originally located prior to their dispersal into said stores. (Page 9, paragraph 118)

As per claims 12 and 21:

Dickinson, Ooba and Fitzhardinge teach all the subject matter as discussed above. In addition, Dickinson further discloses a system wherein each said filled block is

stored in plural selected ones of said stores in said array of stores; whereby failure of any one of said plural stores would not prevent retrieval of the respective filled block.

(Col. 2, lines 55-63)

As per claims 13 and 20:

Dickinson teaches a method for storing and reconstructing a set of data containing sensitive information, in a manner such that unauthorized access to the data as stored would not reveal any of said sensitive information, said method comprising:

transferring successive granular components of said set into randomly selected block queues in an array of multiple block queues; (Col. 2, lines 55-59; Col. 3, lines 27-30; Col. 14, lines 59-65) each said component being void of said sensitive information; each said block queue having capacity to store multiple said components; (Figure 7, Col. 10, lines 61-65; Col. 14, lines 64-65; Col. 15, lines 53-58)

reassembling said data set by using said retained metadata to: (a) retrieve blocks of data containing all of the randomly dispersed granular components of said data set; (b) extract all of said randomly dispersed granular components of said data set from said retrieved data blocks; and (c) rearrange the extracted components into their original format within said data set. (Col. 14, lines 59-67 and Col. 15, lines 1-3)

Dickinson does not explicitly disclose monitoring said block queues to detect when they are full; and transferring content of each said full block queue to a randomly selected store in an array of multiple stores.

Ooba in analogous art, however, discloses monitoring said block queues to detect when they are full; (Page 9, paragraph 123) and transferring content of each said

full block queue to a randomly selected store in an array of multiple stores. (Page 9, paragraph 126)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Dickinson to include monitoring said block queues to detect when they are full; and transferring content of each said full block queue to a randomly selected store in an array of multiple stores. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Ooba (Page 2, paragraph) in order to improve quality and efficiency of the memory access operations, and increases system throughput.

Both references do not explicitly disclose retaining metadata defining locations of said blocks of data in said stores and locations of individual said granular components within each said block.

Fitzhardinge in analogous art, however, discloses retaining metadata defining locations of said blocks of data in said stores and locations of individual said granular components within each said block. (Page 9, paragraph 118; Page 10, paragraph 119)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Dickinson and Ooba to include retaining metadata defining locations of said blocks of data in said stores and locations of individual said granular components within each said block. This modification would have been obvious because a person having ordinary skill in the art

would have been motivated to do so, as suggested by, Fitzhardinge (Page 9, paragraph 118) in order to remember where it has stored all the blocks in a file.

As per claim 14:

Dickinson, Ooba and Fitzhardinge teach all the subject matter as discussed above. In addition, Dickinson further discloses a system wherein transferral of said full block queues to said stores is performed through a data communication network. (Col. 2, lines 55-56; Col. 6, lines 15-16)

As per claim 15:

Dickinson, Ooba and Fitzhardinge teach all the subject matter as discussed above. In addition, Dickinson further discloses a system wherein said network includes a local area network. (Col. 6, lines 49-51)

As per claim 16:

Dickinson, Ooba and Fitzhardinge teach all the subject matter as discussed above. In addition, Dickinson further discloses a system wherein said network extends through the Internet. (Col. 9, line 1)

8. Claims 7, 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson et al. (hereinafter Dickinson) United States Patent Letter Number 6,853,988 in view of Ooba et al. (hereinafter Ooba) United States Publication Number 2001/0042143 and in view of Fitzhardinge (hereinafter Fitzhardinge) United States Publication Number 2002/0136406 and further in view of Brundrett et al. (hereinafter Brundrett) United States Patent Letter Number 6,249,866.

As per claims 7, 10 and 18:

Dickinson, Ooba and Fitzhardinge teach all the subject matter as discussed above. Neither of the references explicitly discloses a system wherein said retained metadata is enciphered and said logic for using said metadata to retrieve said granular portions includes logic for deciphering said retained metadata.

Brundrett in analogous art, however, discloses metadata is enciphered and said logic for using said metadata to retrieve said granular portions includes logic for deciphering said retained metadata. (Col. 5, lines 5-9)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Dickinson and Ooba to include logic for retaining metadata indicating locations of said granular portions of said data set within said array of stores; and logic for using said retained metadata to retrieve said randomly dispersed granular portions from said stores and to reassemble the retrieved portions into their original positional relations in said data set. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so to prevent unauthorized access to the metadata.

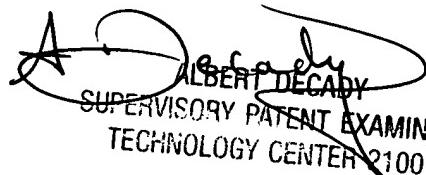
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See Form PTO-892.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shewaye Gelagay whose telephone number is 571-272-4219. The examiner can normally be reached on 8:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decay can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shewaye Gelagay
09/30/05

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